A Spacial Deblocking Method Using Limited Edge Differences Only to Linearly Correct Blocking Artifact

Abstract

A de-blocking method smoothes pixels along a row or column that crosses a block boundary. Smoothing is performed to remove quantization or compression artifacts that appear on block edges when pixels in adjacent blocks are separately compressed. A maximum-allowed edge-pixel difference is generated from the quantization parameter QP. For each edge-crossing row or column, an edge difference is generated as half the difference between adjacent edge pixels in two blocks. This edge difference is compared to the maximum-allowed edge-pixel difference. When the edge difference is larger than the maximum-allowed edge-pixel difference, then the difference is limited to the maximum-allowed edge-pixel difference, since the pixel difference may be a real edge in the image. The limited or edge difference is then added or subtracted in decreasing amounts for several pixels in the row or column near the edge, smoothing the edge difference across several pixels, such as seven pixels.